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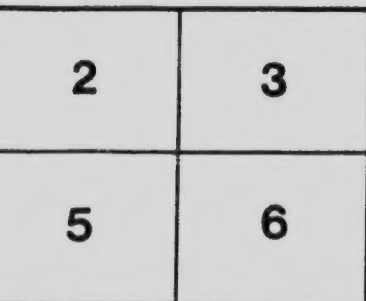
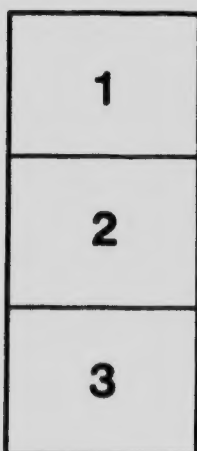
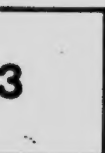
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EXPERIMENTAL FARMS.

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BEЕ-KEEPING IN CANADA.

BY

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Special attention is being paid to bee-keeping at the Dominion Experimental Farms. At the Central Experimental Farm, Ottawa, there is an experimental apiary where the various problems connected with bee-keeping in Canada are being carefully investigated. Adjoining the apiary there is about to be erected an apicultural building fitted with every requisite for research. An apiary is maintained at each of the larger branch farms where the possibilities of bee-keeping in the region served by the farm are studied and also where visitors may see the most suitable hives and appliances, and may learn the best methods of bee management and how to prepare honey for market.

Bees are of value for two purposes:—

The production of apples, pears, plums, cherries, gooseberries, raspberries and alsike clover seed depends upon the visits of insects to the flowers to distribute the pollen. In many places the wild bees are not sufficiently numerous or active to carry out this work satisfactorily, especially when the weather is changeable, and honey bees are necessary to secure uniform and abundant crops.

Then there is the honey that bees yield. Canadian honey is unsurpassed in quality by that of any other country. Owing mainly to the warmer summer and abundance of nectar producing flowers until frost, the average yield per colony is greater than in the British Isles, and varies from about thirty pounds in poor seasons and regions to about two hundred pounds with skilled management in a particularly good season in the best regions, where bee-keeping is carried on by specialists, who find it as profitable an occupation as mixed farming.

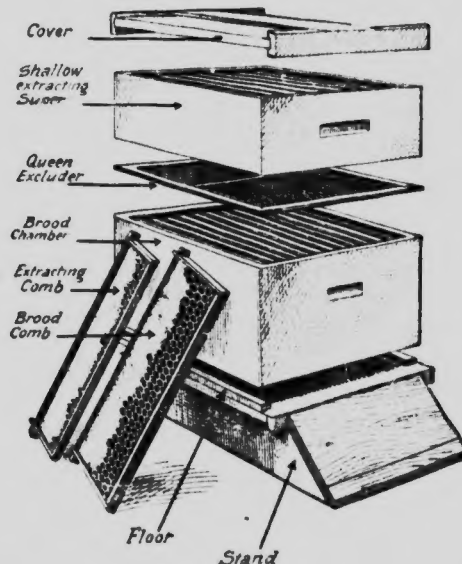
Fifty to a hundred colonies may be kept in one spot. Large apiaries however, should be not less than three miles apart. The main sources of honey are alsike clover and white clover, (Ontario, Quebec, Maritime Provinces and British Columbia), buckwheat (Ontario and Quebec); basswood (Ontario and Quebec); alfalfa (Southern Alberta); raspberry, willow-herb, sweet clover, golden rod and aster. In the spring, willows, dandelion, fruit bloom and other flowers supply pollen and nectar to enable the bees to breed up in preparation for the in-gathering.

A local demand for honey is easily created. Wholesale prices for extracted honey range from seven to ten cents per pound for dark and amber coloured honey, and from nine to twelve cents per pound for clover honey. Selling direct to consumers, ten to twenty cents per pound may be got for extracted honey, and fifteen to thirty cents for sections of comb honey.

Honey is deservedly popular, not only on account of its delicately flavoured sweetness, but because it is a valuable food, supplying energy and heat to the system. The natural craving of children for something sweet is well and satisfactorily met by giving them honey. Bread, butter and honey make a pleasant and wholesome combination both for children and adults. Used in baking and confectionery, honey has the useful property of keeping cakes and sweetmeats moist and fresh for a considerable time.

The severe cold and length of the Canadian winter are not serious obstacles to the keeping of bees, as the bees can be successfully wintered in the cellars of dwelling houses, or, packed in shavings, in large wintering cases out-of-doors.

However, no one should embark on bee-keeping who is not ready to study the bees' requirements and to devote the necessary time to their care, for bees are no more able to take care of themselves than any other kind of live-stock. Indeed, neglect in their case is frequently even more disastrous, for if colonies die as the result of European Foul Brood or American Foul Brood, two very destructive and infectious diseases of the bee larva, bees from other hives in the apiary and surrounding districts will steal the honey and thereby carry the germs of disease to their own hives. Many parts of Canada, e.g., British Columbia, the Prairie Provinces, the greater part of the Mari-



A 10-frame Langstroth Hive, with the parts separated.

time provinces, Eastern Quebec and certain sections of Ontario are still practically free from foul brood and it is important that bees should not be imported into these regions from places where the diseases are prevalent. Especially is this so in the case of European Foul Brood which it is hard to stamp out of a district that has once become badly infected with it. This disease is steadily spreading, destroying whole apiaries of black bees in its course. Fortunately the Italian bee is more or less resistant to European Foul Brood, and the bee-keeper can save his bees by proper treatment and the timely introduction of Italian queens. Ontario, Quebec and British Columbia have passed legislation for the control of foul brood.

To treat forms of foul brood shake the bees into a clean hive fitted with frames having starters of foundation not more than one inch wide, and afterwards cover the entrance of the new hive with a queen and drone trap for two or three days to prevent

the colony from deserting. Melt down the combs in boiling water and disinfect the old hive by scorching the inside with a flame. Other articles may be disinfected by boiling in water for half an hour. When only a few colonies are treated, to prevent the bees of healthy colonies from getting any of the infected honey, the shaking should be carried out in the evening, and if honey drips from the combs newspapers should be spread in front of the hive to receive it. These newspapers are to be afterwards destroyed.

Samples of diseased brood comb may be mailed to the Division of Apiculture, Central Experimental Farm, Ottawa, for examination and report. They should be about six inches square, should contain no honey and should be enclosed in a strong wooden or tin box, with the sender's name and address written on the outside of the parcel.

The only satisfactory kinds of hives are those fitted with movable frames to contain the combs. The Langstroth frame, 17½ inches long by 9¼ inches deep, is the standard in all parts of Canada.

The following list comprises all that is necessary for making a start in bee-keeping:—

One or two colonies of bees in 10-frame Langstroth hives. (The bees may be obtained from a local bee-keeper. Ascertain that they more than half fill the hive, that a young fertile queen is present and that the brood is healthy.) (Cost each, according to locality, condition, and time of year.)	\$4.50 to \$10.00
One pound brood foundation, costs about.....	60
Bee smoker, costs about.....	1.00
Bee veil.....	35
One-quarter pound No. 30 tinned wire.....	15
Spur wire embedder.....	25
One or two spare 10-frame Langstroth hives with frames, each about..	2.00

If extracted honey is desired add the following:

Extracting supers fitted with Langstroth frames, (shallow supers may be used in regions where the honey flow is light), one or two for each hive, each about.....	\$ 1.00
11 lb. light brood foundation for each super, per lb.....	62
Honey extractor.....	\$8.00 to 10.00
Queen excluder for each hive.....	30

If comb honey is wanted substitute for extracting supers, etc., the following:

Comb-honey supers fitted with sections, two for each hive, each about.	\$ 70
¾ lb. thin super foundation for each super, per lb.....	68
250 spare sections, split top.....	1.75

A colony worked for extracted honey will produce about twice as much honey as one worked for comb honey.

The names of manufacturers of and dealers in bee-keepers' supplies may be found in the advertising columns of the 'Canadian Bee-keeper,' a monthly journal published at Peterboro, Ont.

There is no mystery about the successful management of bees. For a large part of Canada it may be briefly summarized as follows: In September see that each colony is strong and has a young fertile queen, and about 35 pounds of stores. Deficiencies up to 10 pounds or 15 pounds may be made good by feeding about mid-September with sugar syrup made by dissolving two parts by measure of best granulated sugar in one part of water, stirred in while water is hot. Protect from cold in the latter part of October. Bring the bees into the cellar about the middle of November. The bee cellar should be well ventilated and dark. Hang a reliable thermometer in it. The temperature should vary no more than two or three degrees on either side of 46 degrees Fahrenheit. Bring the bees out in April. Protect them for a few weeks from cold. In times of scarcity see that each colony has food. If necessary, feed with syrup composed of equal parts of sugar and water. Give a super as soon as the brood

chamber is filled with bees and brood, and honey is coming in freely, and enlarge the entrance. Give additional supers before those previously supplied are full of honey. Swarms should be put in a new hive on the old stand, the old colony being moved to a new location. By clipping the queen's wings (this should be done early in May) there is no fear of losing the first swarm, but somebody should be present to secure the queen and hive the swarm when it issues.

Enquiries about bee-keeping should be addressed to the Apiculturist, at the Central Experimental Farm, Ottawa.

Copies of 'The Honey Bee' by C. Gordon Hewitt, D.Sc., (Bulletin No. 69 of the Dominion Experimental Farms), a 45-page guide to apiculture in Canada, may be obtained on application to the Publications Branch, Department of Agriculture, Ottawa.



